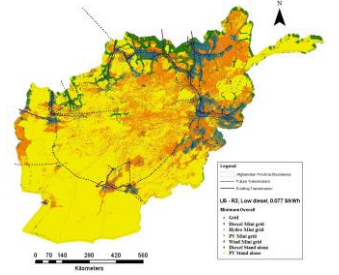


Afghanistan Energy Program

AES Committee meeting

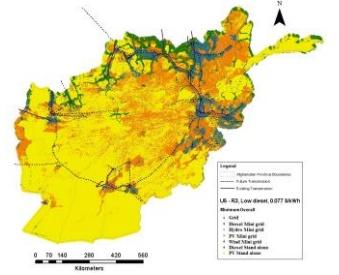
January 16, 2018

Activity 4: Following Phase 1



- The electrification mix is shown only for the end year (here 2030). Thus, the electrification mix and status in the intervening years (that is, today till 2030) are not considered. To include the whole period, it would be necessary to decide which priority areas need to be electrified first.
- The breakdown of the generation mix used to consider different grid electrification costs is not detailed. It would be necessary to link with a more detailed expansion planning model to obtain the optimal generation mix based on the country's resources, demand, and trade with other countries.
- Another critical issue is the various resolutions of the datasets used. For example, population density data are given at 1 km while the wind speed is at 5 km. The datasets need to be harmonized to ensure better accuracy. This is true for demand, generation and T&D.
- The analysis considers only household electrification. Other productive uses of electricity (such as in health services, schools, rural enterprises, agriculture and so on) should also be considered. These would increase the demand levels and therefore the electrification mix.
- The model quantifies electrification targets for Afghanistan by 2030. It considers the least-cost mix and what the required aggregate investment would be. But it does not imply the implementation of the identified strategies or the provision of necessary finance.

Activity 4: Phase 2



- Take results from GIS planning Phase 1 and provide detailed plans and focus for next 5-10 years at the distribution level.
- It will also build on the 2013 Power Sector Plan, while updating or refining some of the assumptions and analysis in that work.
 - A focus on 5-7 Provinces
 - Include detailed power flow modelling
 - Include detailed infrastructure modelling
 - Include detailed investment planning
 - Develop an Afghan “in-house” updateable, least-cost electrification model and associated data platform.

Utility governance support

- Make use of existing precedent for utility reform at the Bank over the last 20 years.
- DABS leadership is essential for providing quality services in Afghanistan.
- More than only financial viability – links to policy and regulation
- Development of independent regulator
- Acknowledging that these things take time. Incremental change.
- Links to other service provision – i.e. natural gas, water, telecoms, etc.
- Links to regulation of IPPS
- Links to rural electrification
- Strong governance focus for organizational development

Utility Resources

Figure 6: Comparison of costs with cash collected in 2014 U.S. dollars per kWh billed

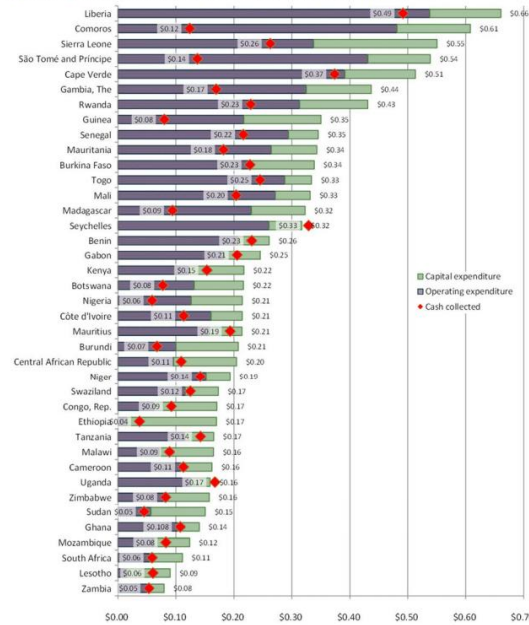
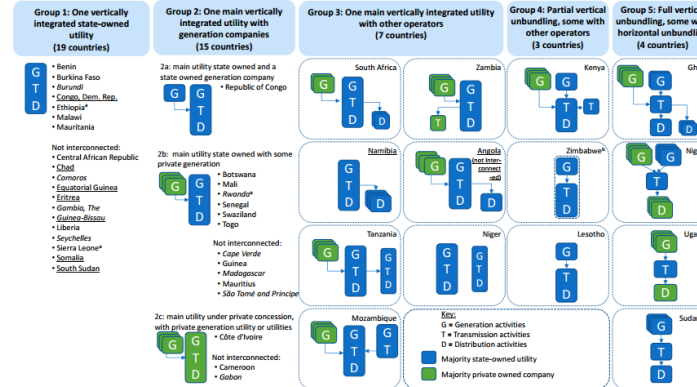


Figure 1: Electricity sector structures in Sub-Saharan Africa



Source: World Bank staff illustration.

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John E. Besant-Jones